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SAMOS

GENERAL OPERATIONAL CONCEPT

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INTRODUCTION

The purpose of this Plan is to indicate how the SAMOS satellite reconnaissance system will be handled when it is available for operational purposes.

Facilities, equipment, and personnel are considered as planning goals.

Control is through existing unified and specified commands.

Establishment of an initial operational date is not attempted.

Lead times for construction of facilities, procurement of vehicles and personnel training are considered.

Cognizance is taken of a research and development period of undetermined duration.

The plan is based on the premise that reconnaissance information acquired by SAMOS will not be utilized exclusively for any one military service or government agency.

It is intended that this document will serve as a basis for collecting and disseminating satellite reconnaissance information for use of all U. S. military services and of all other interested government agencies.

EMPLOYMENT AND EXPLOITATION

SAMOS

1. **General:**

This plan addresses itself to the point in time when an operational capability is obtained in the form of a proven weapons system.

2. **Purpose:**

a. The purpose of the SAMOS Satellite Reconnaissance System is to perform reconnaissance through the use of satellites which will be capable of observing from space areas of interest on earth. The system will be comprised of those elements necessary to collect, process, interpret and dissiminate intelligence information. When used with information obtained from other sources it should assist in satisfying the desire of the U. S. Intelligence Board for:

(1) Avoidance of Surpirse.

(2) Support of National Security Policy.

(3) Support of the War Plans of Unified and Specified Commands.

3. **Assumptions:**

a. That there is a need for the system.

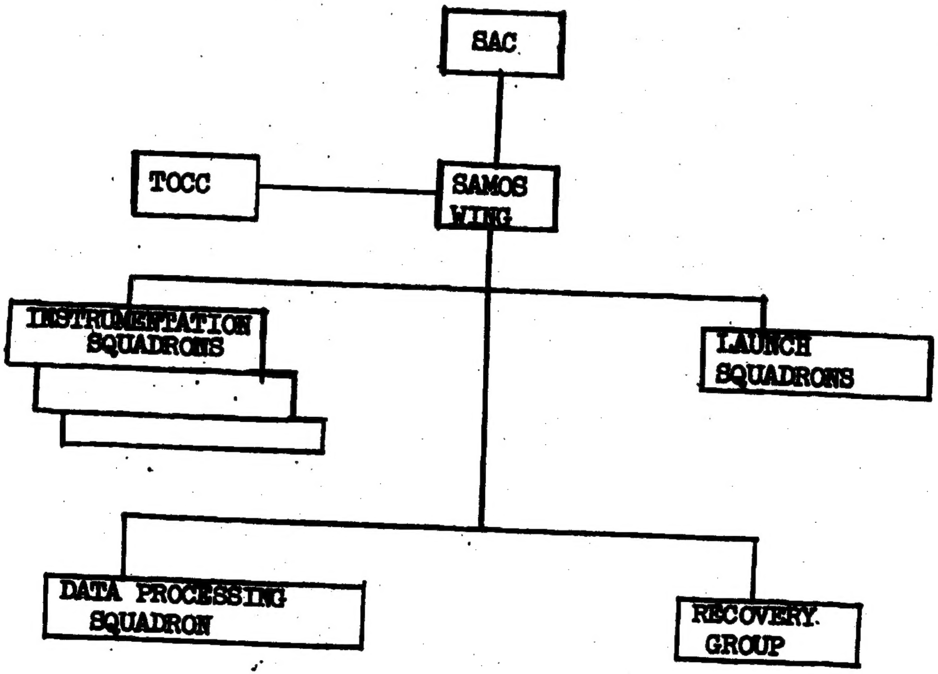
b. That the system has the capability for effective operations.

c. That national policy will permit the employment of the system to collect intelligence information.

4. Command and Control: The SAMOS satellite reconnaissance system will be assigned to SAC for operational control under the strategic direction of the Joint Chiefs of Staff.

a. The operational SAMOS units will be organized into a wing. The Wing Commander will be responsible to CINCSAC for the overall performance of the SAMOS reconnaissance system. The Director of Operations, Hq SAC, through the Commander of the Wing, will exercise operational control of the Technical Operations Control Center (TOCC), Launch Squadron, Instrumentation Squadrons (T/A), Data Processing Squadron, and the Recovery Group. The TOCC will plan, schedule and execute all mission tasks.

SAC

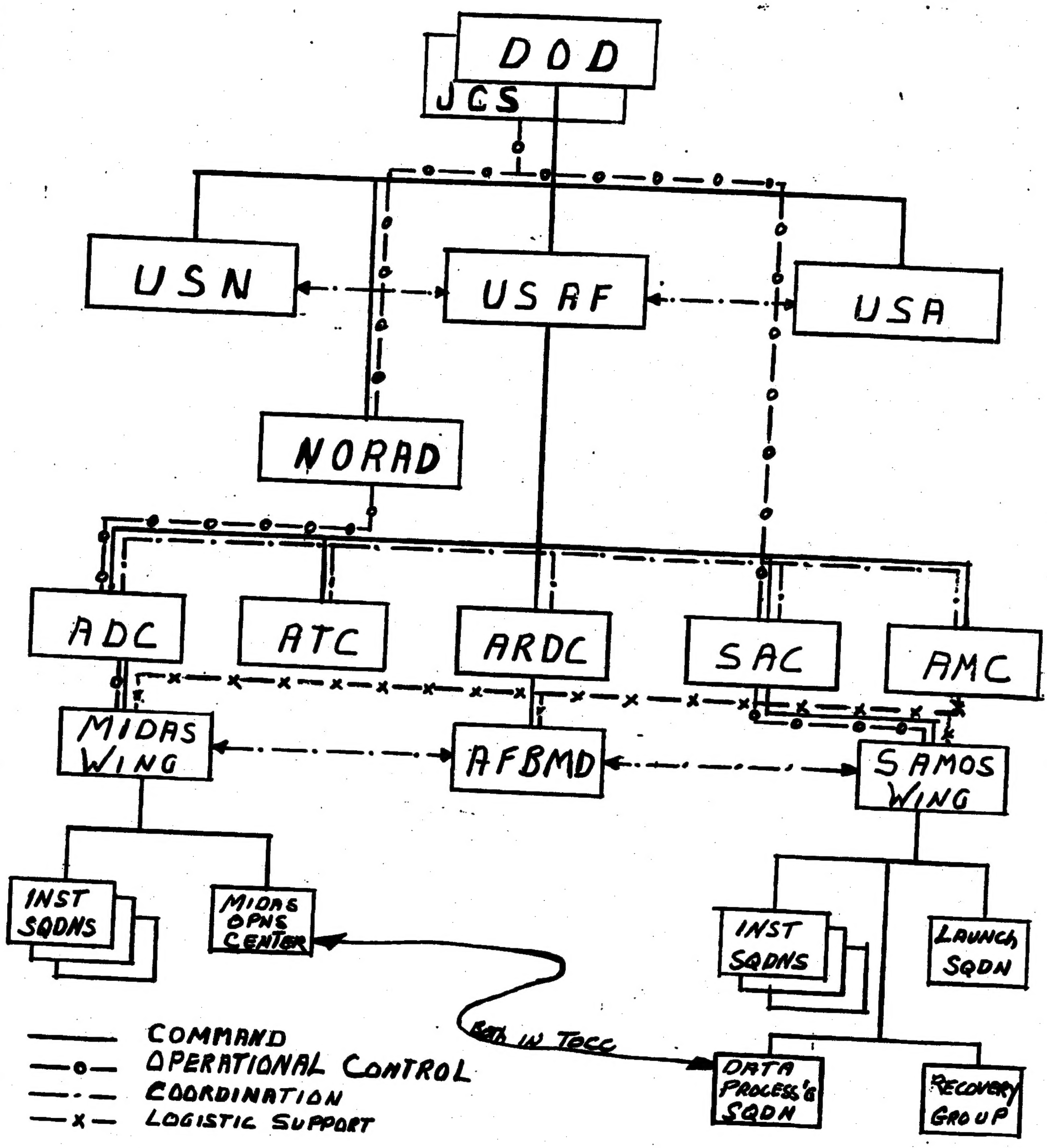


(1) The Launch Squadron will be responsible for accomplishing actions necessary to receive, inspect, check-out, launch, guide and inject the satellite vehicles into orbit. It will be responsible for assembly, inspection, pre-flight and maintenance of all boosters and payloads, SAC will operate this squadron in the Vandenberg AFB/Pt Arguello area.

(2) Three ZI Instrumentation Squadrons are envisioned. One will be located in the Northeastern part of the U.S.; one in the Middle West, and one in the Northwest. Each will acquire, track and receive reconnaissance data from satellites for transmission to the Technical Operations Control Center which will direct the Tracking and Acquisition components in control of SAMOS satellites.

(3) The Data Processing Squadron located at Offutt AFB will be responsible for the compiling, processing and reproduction of critical intelligence data received from the reconnaissance subsystems and for distribution to the using agencies.

(4) The Recovery and Control Group will exercise operational control over the Test and Instrumentation Squadrons in Hawaii. This Group will be responsible for vehicle tracking and payload retrieval of the recovery version of the SAMOS System.


DOD
JCS
USN
USAF
USA
NORAD
ADC
ATC
ARDC
SAC
AMC
MIDAS WING
AFBMD
SAMOS WING
INST SQDNS
MIDAS OPNS CENTER
INST SQDNS
LAUNCH SQDN
DATA PROCESS'G SQDN
RECOVERY GROUP
Both in TDCC
—— COMMAND
—o— OPERATIONAL CONTROL
—·— COORDINATION
—x— LOGISTIC SUPPORT

5. **Description:**

a. The SAMOS system design includes payloads, Agena vehicle, the modified ICBM booster, launch facilities, tracking and read-out facilities, data processing facilities, communications net-work and technical and operational control facilities. The SAMOS payloads are to be employed for the sensing of visual and electronic images.

b. The SAMOS system will orbit at approximately 300 miles. The visual (Photographic) results are transmitted in one configuration, and the payload recovered for ground processing in another. The transmitted visual images deliver photographic data as soon after sensing as possible. This is to be accomplished by equipment in the payload which processes the photographic film, converts the images to electrical data, stores them until the vehicle is within range of a U. S. Based readout station, and transmits the information upon command. The electrical data will then be reconstituted to photographic images suitable for interpretation. This method is designed to detect objects of 20 foot dimensions. A similar system of electrical transmission, read-out and processing is to be used in retrieving data from the electronic reconnaissance payload. In the case of the recoverable payload, the vehicle will receive re-entry commands from a designated instrumentation station. After air or surface pick-up, the payload will be delivered to a data processing facility. This method is designed to permit detection of 5 foot ? objects. Each satellite in the SAMOS system is capable of delivering

Yes
initially
in the
Opr
program

an intelligence product suitable for use after processing and evaluating.

6. System Capability:

a. The operational SAMOS system will be capable of providing raw and processed photographic and electronic reconnaissance data which, when correlated with the intelligence from all available sources, will be used to:

(1) Knowledge (Acquire warning) ? of adverse enemy employment of its missile or long range bomber force.

(2) Produce and revise target information, graphics and estimates of strike forces.

(3) Develop effective penetration tactics and electronic countermeasures.

(4) Estimate foreign military economic capability or potential.

(5) Analyze technical characteristics of foreign equipment and components.

(6) Establish and revise the requirements for U.S. weapon systems

7. Facilities Description: Facilities and equipment utilized for Research and Development will be used whenever possible for operational purposes. Selection of facilities and equipment for such use will be made to avoid impairment to advanced research and development needs. Scheduling of range support and range time will be consolidated

within the SAC mission and effort at Vandenberg AFB, and presented to the Pacific Missile Range as a composite SAC requirement. National priorities will be utilized as the basis for scheduling activities.

a. Launch Complex: The launch facility will include the necessary launch stand(s) with flame deflectors, underpad instrumentation, and equipment space, service towers, fuel storage and transfer facilities, umbilical mast, utilities hardstands, operations building with controls and designed to protect personnel from blast or direct fall back of missile, and space for personnel training. It is calculated that two launch stands will permit sufficient launches to maintain an average of three SAMOS Satellites in orbit.

Midas?

b. Launch Squadron Maintenance Area: These facilities will provide space for the receipt, assembly, checkout and maintenance of the booster, satellite vehicle, payloads and their components and subsystems, including GSE. It will also provide space for operating, administrative, support, command personnel and training.

c. Tracking and Acquisition Stations: Three Tracking and Acquisition stations are to be located in the Continental United States for tracking, command, and for acquisition of reconnaissance from the SAMOS payloads. A tracking and command station in Hawaii will be used primarily to serve the SAMOS recovery vehicle.

Midas

d. Control and Data Processing: (Technical Operations Control Center and Data Processing Facility) facilities will be provided at Offutt Air Force Base, Nebraska. Space will be available for mission planning, command control and operations, computations, correlation of data with the Tracking and Acquisition stations and data processing equipments. Space will also be available for operations and command personnel, and for training.

8. Personnel: Command, staff, technical and support personnel are considered as a part of the SAMOS System. These personnel will be in sufficient number and possess the skills necessary for the operation of the system. It is anticipated that military and civilian as well as contractor personnel will be assigned. Detailed personnel needs are contingent upon the definition of the operational system, its equipments and their functions. Studies indicate that a period of 20 to 24 months will be sufficient to train personnel for operations.

9. System Operation:

a. General. The SAMOS System will obtain electronic (Ferret) reconnaissance and photographic (visual) reconnaissance of selected areas of the earth, Based on the stated objective of complete coverage of priority target areas each six months. The reconnaissance is achieved by command programming of the sensors over the areas of interest. (See Chart: Satellite Reconnaissance Systems Operation).

b. The Recovery Version. In this version the exposed photographic film is stored in the vehicle. Upon completion of the mission, the vehicle is commanded or programmed to leave the orbit and eject the payload so as to descend in the recovery area. Recovery will be made in the air by suitably equipped aircraft, or failing this, be retrieved from the surface by ship. The exposed film will then be delivered to the Data Processing Facility at Offutt Air Force Base, Nebraska, for processing.

c. The Photographic Readout Version. In this version, the exposed film is processed, the information is converted to electrical data and stored in the payload while in orbit. Upon command, the information is transmitted to one of the three tracking and acquisition stations
7 and relayed by data link to the Data Processing Facility where it is converted back to photographic form. The payload System will initially employ conventional photographic techniques with automatic film processing and television-type readout. Later payload equipment will utilize electronic sensors and high resolution television in conjunction with tape storage. When more is known about both readout and recovery techniques and results, it might be desirable to develop a photographic payload system which combines these [illegible].

d. The Electronic Reconnaissance (Ferret) Version. This version will collect intelligence information from the electromagnetic spectrum. the information will be stored in the vehicle until commanded from the ground (T&A Station) to transmit the information to the ground based readout equipment and relayed by Data Link to the Data Processing Facility.

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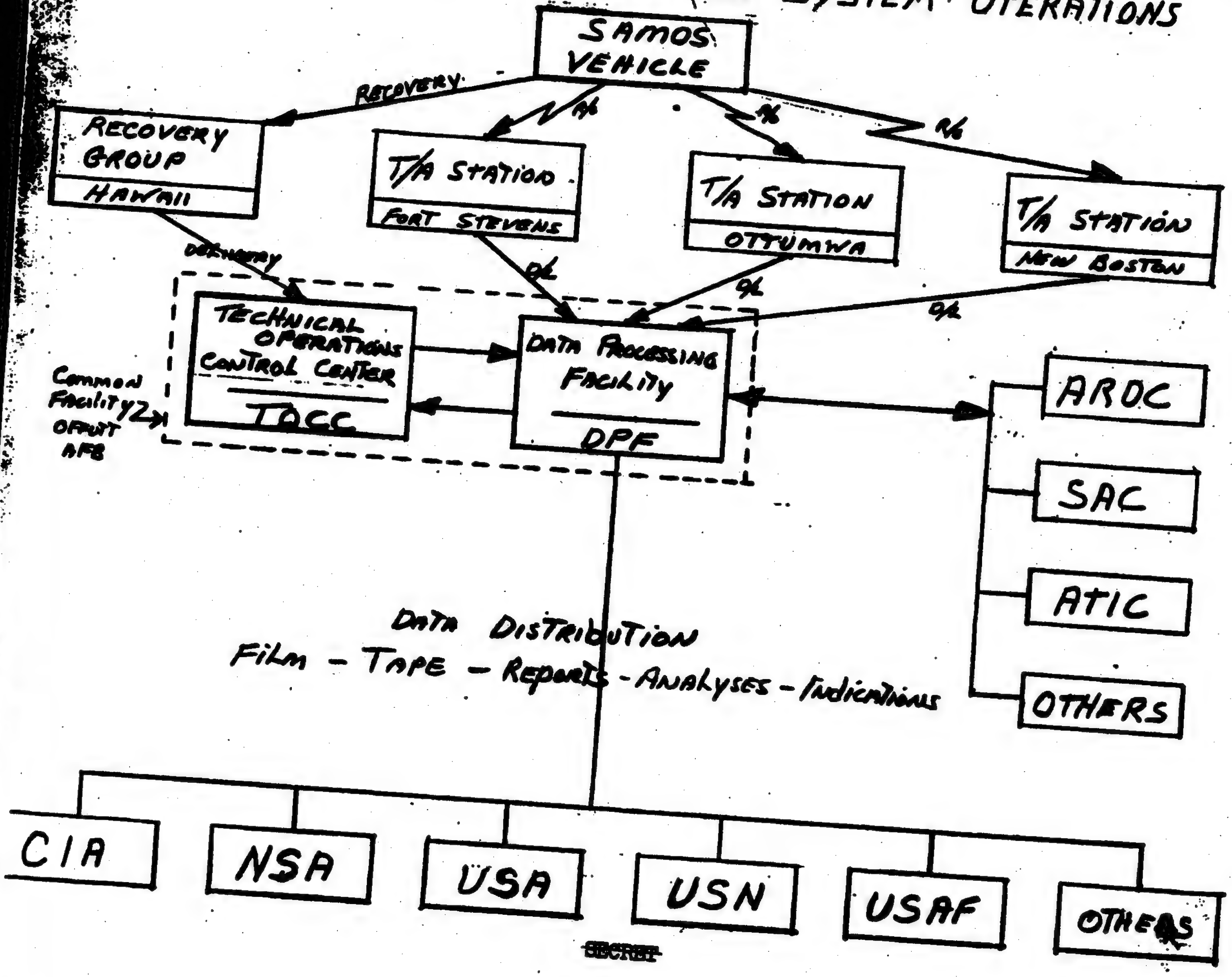
SATELLITE RECONNAISSANCE SYSTEM OPERATIONS



VABB ?

Product Improvement

Operational Analysis

Systems Studies

Technical Evaluation

ETC

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10. Intelligence:

a. The effectiveness of this system will rely on the capability of the intelligence community to exploit the products received. The intelligence requirements for the National Security Agency, Central Intelligence Agency, U. S. Army, U. S. Navy, U. S. Air Force and others have been established by United States Intelligence Board (USIB) and provide a basis for system operation and product exploitation. The instrument to accomplish the detailed tasks is the Satellite Intelligence Requirements Committee (SIRC) of the USIB. In accordance with the provisions contained in the SIRC terms of reference "The Committee will concern itself with satellite intelligence requirements involving certain problems specifically referred to it by the USIB or members. In dealing with satellite intelligence requirements problems, the Committee is charged with the following responsibilities:

(1) Develop a plan for compiling, establishing prorities, and coordinating satellite intelligence collection requirements.

(2) Establish procedures and plans to investigate, study and make recommendations to appropriate authority on questions pertaining to satellite intelligence collection requirements.

(3) Provide guidance for dissemination of intelligence derived from U. S. satellite vehicles to meet the varied needs of

user agencies, departments and commands. The SIRC is currently engaged in developing plans to insure that all user requirements will be considered. After SIRC concurrance, the plan will be submitted to the USIB for final approval and implementation. Current membership of the SIRC includes the OSD, CIA, JCS, Army, Navy, Air Force, NSA and State, with other USIB Representative agencies participating as desired. Initial distribution of SAMOS produced or 9-½ " roll film ? covering priority requirements will be provided. ELINT data will be processed and disseminated in a format suitable to all consumers. Changes in format and quantity can be made readily. Mission and task assignments established by JCS directives provide the basis for SAMOS exploitation to satisfy the following four basic missions:

(4) Intelligence base development and maintenance.
(5) Technical intelligence development and exploitation.
(6) Graphic development and production.
(7) Operational support.

b. As an extension of the initial distribution of the visual and ELINT formats, evaluated data will be exchanged on a continuing basis through the mechanics of existing procedures.

c. Security Classification: Security procedures will be in accordance with AFR 205-1 (reflects national security procedures). Additionally, the security classification of SAMOS derived data will be based on the format of the data, content and security policy in existence at the time the data is obtained. The data will be handled in limited access areas and distribution to fill specific requirements.

ANNEX A

AIR FORCE TASKS
to Achieve
NATIONAL INTELLIGENCE OBJECTIVES
from
SAMOS RECONNAISSANCE

ANNEX A

1. **TASKS:**

a. General:

(1) A capability of personnel, equipment, facilities, and knowledge has been developed for the general support of the national mission to perform and exploit aerial reconnaissance. The present capability consists of a series of units and agencies which have been organized and integrated into an intelligence community which specializes in the exploitation and use of aerial reconnaissance information. (TAB "A")

(2) The Air Force Intelligence Community has an overall objective. Each element is assigned a separate mission which is, in turn, integrated to satisfy Air Force responsibilities to the National Intelligence Community. Each member of the community has a capability to accomplish its assigned mission.

b. Tasks by Elements:

(1) Strategic Air Command (SAC) will: (Tab "B")

(a) Use the Data Processing Squadron to:

1. Initially, operate the data processing facility.

2. Process electromagnetic and photographic data (primary record) into acceptable formats for dissemination to the using organizations.

3. Perform a data evaluation and produce the following types of reports to indicate degree of satisfaction of user needs.

a. Track coverage reports.

b. Flash Reports.

c. Immediate Reports.

4. Disseminate these reports in accordance with Joint Regulation, AFR 200-6/SR 380-305-10/ NAVAER 10-35-568 and special Assistant Chief of Staff/Intelligence Instructions.

5. Receive photographic and ferret data from the Data Processing Squadron.

6. Exploit SAMOS products to provide the intelligence products required to support the operational needs of its strike force by:

a. Estimates of military and economic capability.

b. Analysis of foreign equipments and components.

c. Production and revision of target information, graphics and estimates.

d. Development of effective electronic countermeasures employment.

e. Development of penetration tactics.

f. Establishing and revising requirements for Strategic Weapon Systems.

g. Production of electronic intelligence reports which will include but not be limited to:

Level of Activity Reports.

Special Signal Reports.

Unidentified Intercept Reports.

Detailed Mission Review Reports.

(2) Air Force Intelligence Center (AFIC) will perform detailed exploitation of SAMOS products to: (TAB "C")

(a) Produce detailed intelligence to support the United Unified and Specified Commands.

(b) Produce special studies and reports on geographic areas, functional categories, and physical vulnerability.

(c) Produce special significance briefings for the Air Staff.

(d) Maintain and update the Current Target Intelligence File.

(e) Maintain and update the Airplane and Seaplane Stations of the World (ASSOTW).

(f) Review and evaluate Commanders Atomic Annexes.

(g) Generate Air Target Material Production Orders for new or revised priority target materials.

(h) Produce, maintain and update the Current Target Graphic Base (CTGB).

(i) Prepare detailed intelligence annotations for Air Target Materials.

(3) Aerospace Technical Intelligence Center (ATIC) will: (TAB "D")

(a) Produce photographic and electronic technical intelligence as required by the Air Staff, Unified and Specified Commands.

(b) Evaluate the photographic products and recommend quality control procedures.

(c) Evaluate ELINT products to determine capabilities and limitations of equipment and determine types and quantity of emmitters.

(d) Provide technical support to the Air Force ECM and ECCM equipment development programs.

(4) The Aeronautical Chart and Information Center (ACIC) will: (TAB "E")

(a) Provide photographic support to governmental agencies.

(b) Provide positional information for targets and other identifiable points in the Eurasian Land Mass to meet stated objectives.

(c) Produce special geodetic studies to satisfy USAF requirements.

(d) Produce new and revised Air Target Materials.

(e) Produce new and revised navigation charts and publications.

(f) Produce new and revised Air Facility Data.

(g) Provide related intelligence data as required such as Area Radar Prediction Analysis, Radar Return Code Annotations and special studies as assigned.

2. **DISTRIBUTION:**

a. The Data Processing Squadron, located at Offutt Air Force Base, will be responsible for the distribution of SAMOS products.

(1) Distribution requirements of the National Intelligence Community will be in accordance with USIB instructions.

(2) Initial distribution to Air Force organizations will consist of 9½ inch reconstituted film positives and other data in accordance with the following instructions.

Center Format?

(a) Strategic Air Command will receive one film positive of all usable exposures and associated data, and ELINT tapes with associated information.

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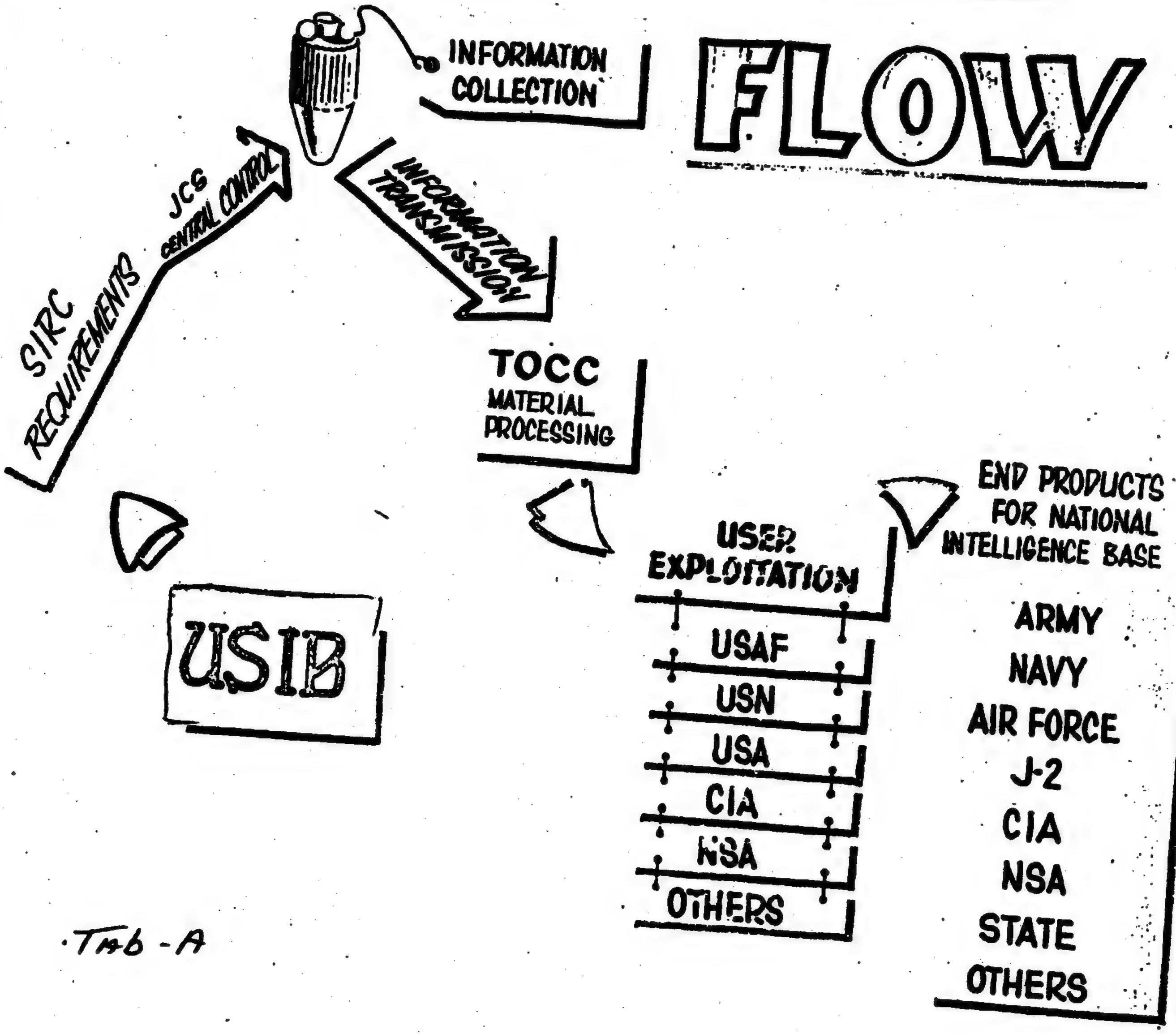
(b) Air Force Intelligence Center (AFIC) will receive one film positive of each usable exposure with associated data.

(c) Aerospace Technical Intelligence Center (ATIC) will receive one film positive of each usable exposure, and ELINT data and tapes as required for evaluation and technical intelligence purposes.

(d) Aeronautical Chart and Information Center (ACIC) will receive one film positive of all usable exposures with orbital, attitude and vehicle time data.

INTELLIGENCE FLOW



INFORMATION COLLECTION

INFORMATION TRANSMISSION

TOCC
MATERIAL PROCESSING

USER EXPLOITATION
- USAF
- USN
- USA
- CIA
- NSA
- OTHERS

END PRODUCTS FOR NATIONAL INTELLIGENCE BASE
- ARMY
- NAVY
- AIR FORCE
- J-2
- CIA
- NSA
- STATE
- OTHERS

USIB

SIRC REQUIREMENTS

JCS CENTRAL CONTROL

Tab - A

[illegible] personally dislike flow charts to describe this and the [illegible] of operation. A typical example of how it is supposed to work is more to my liking.

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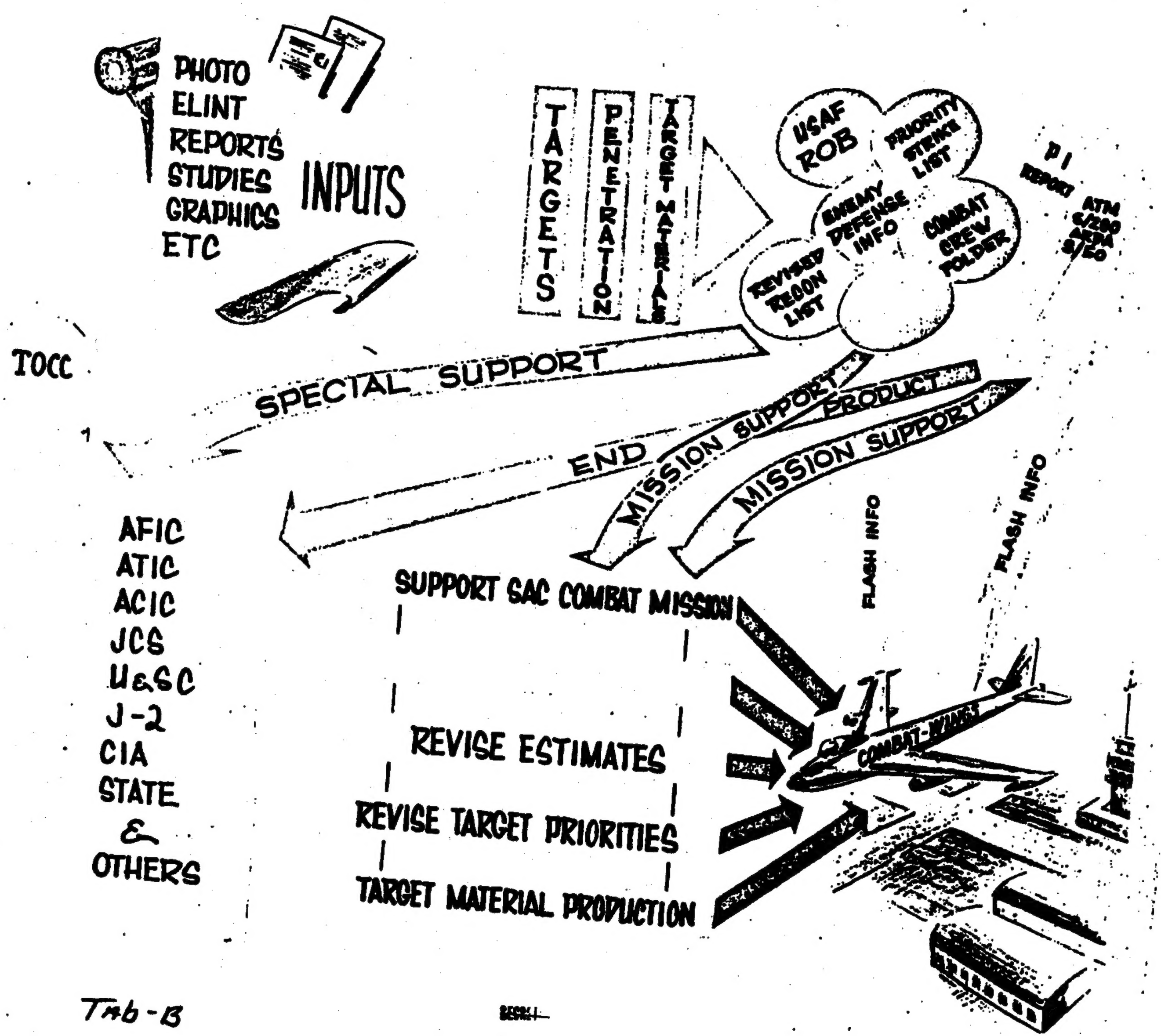
SAC INTEL. FLOW CHART



Tab-B

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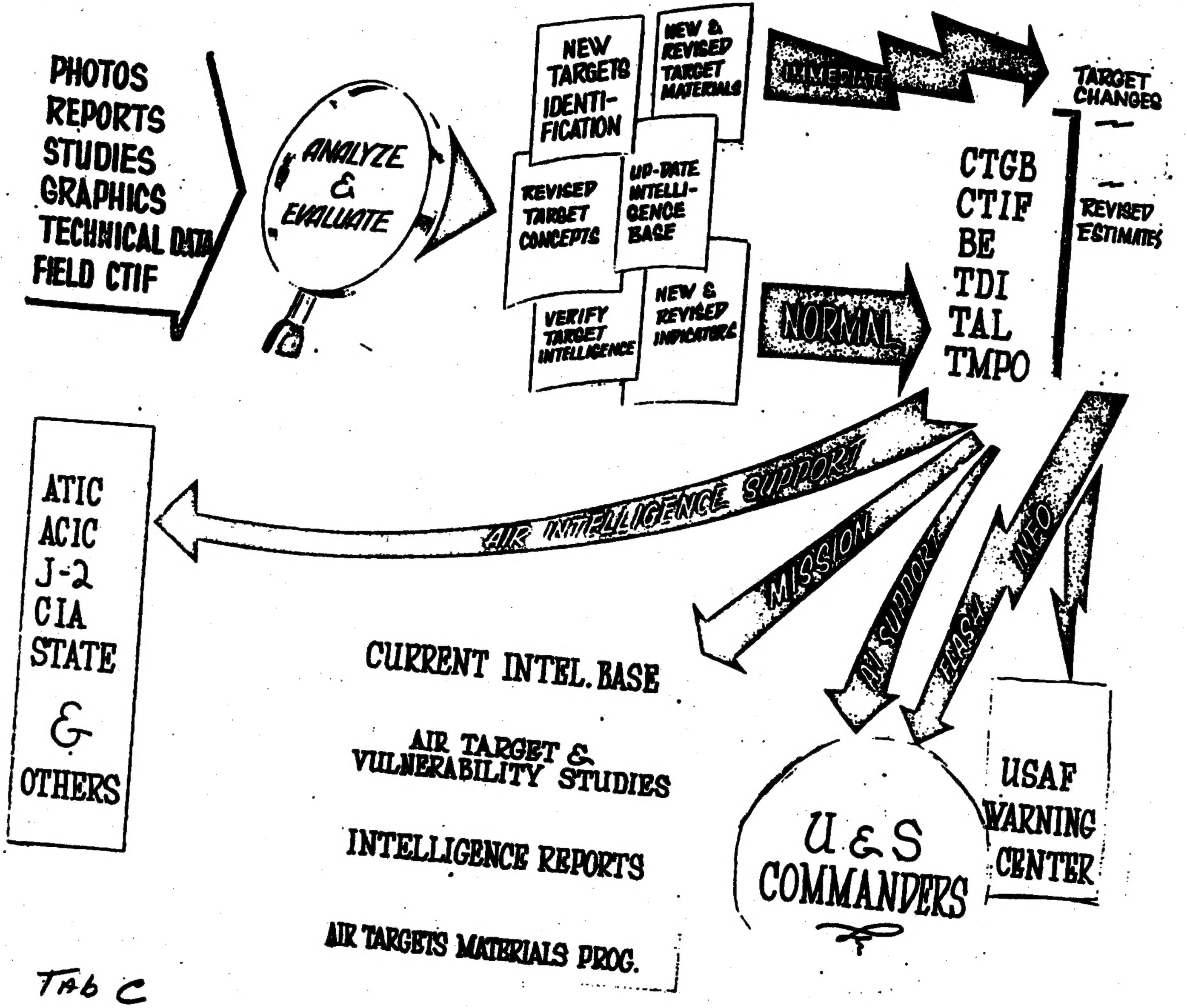
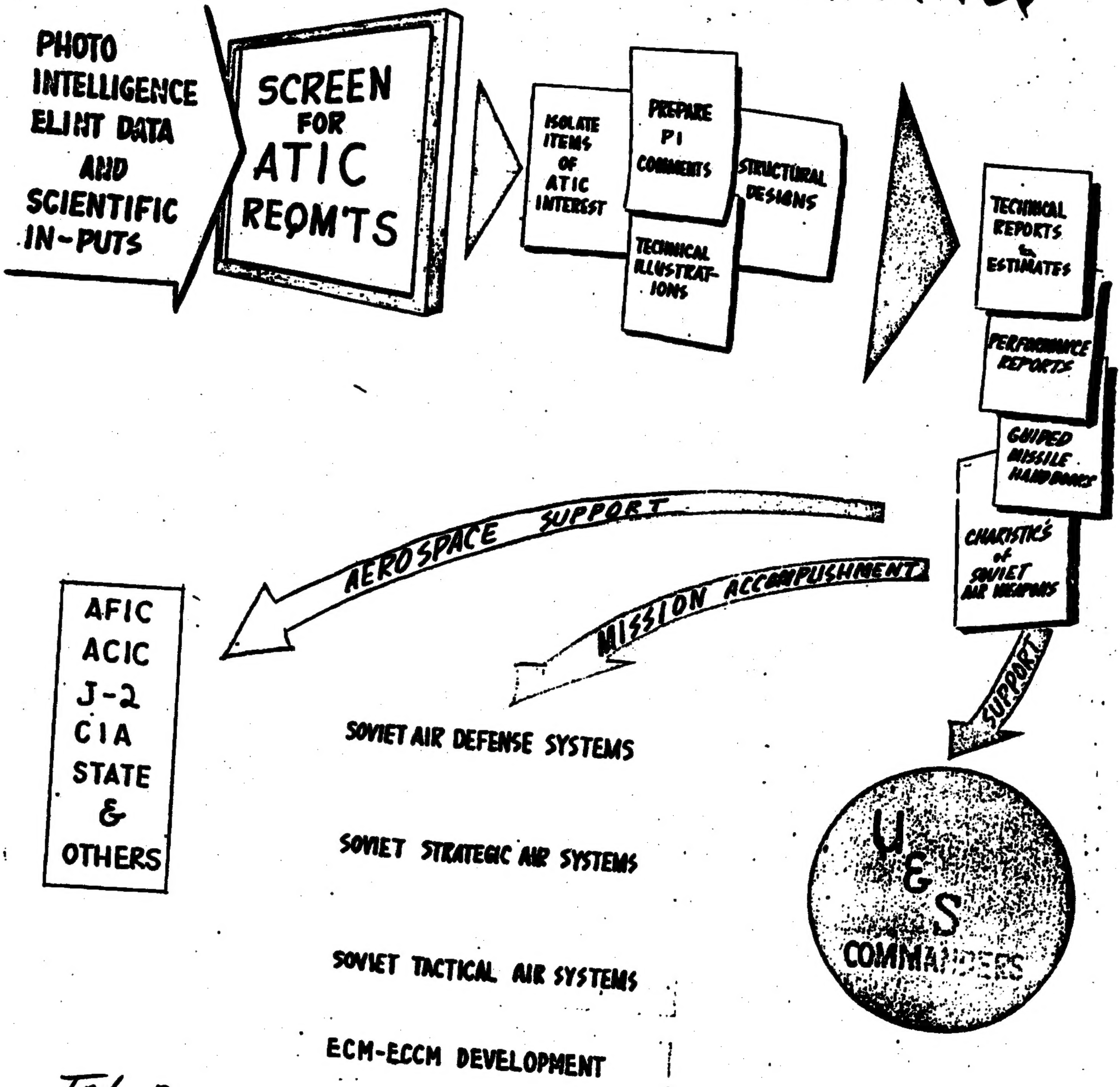
AFIC FLOW CHART



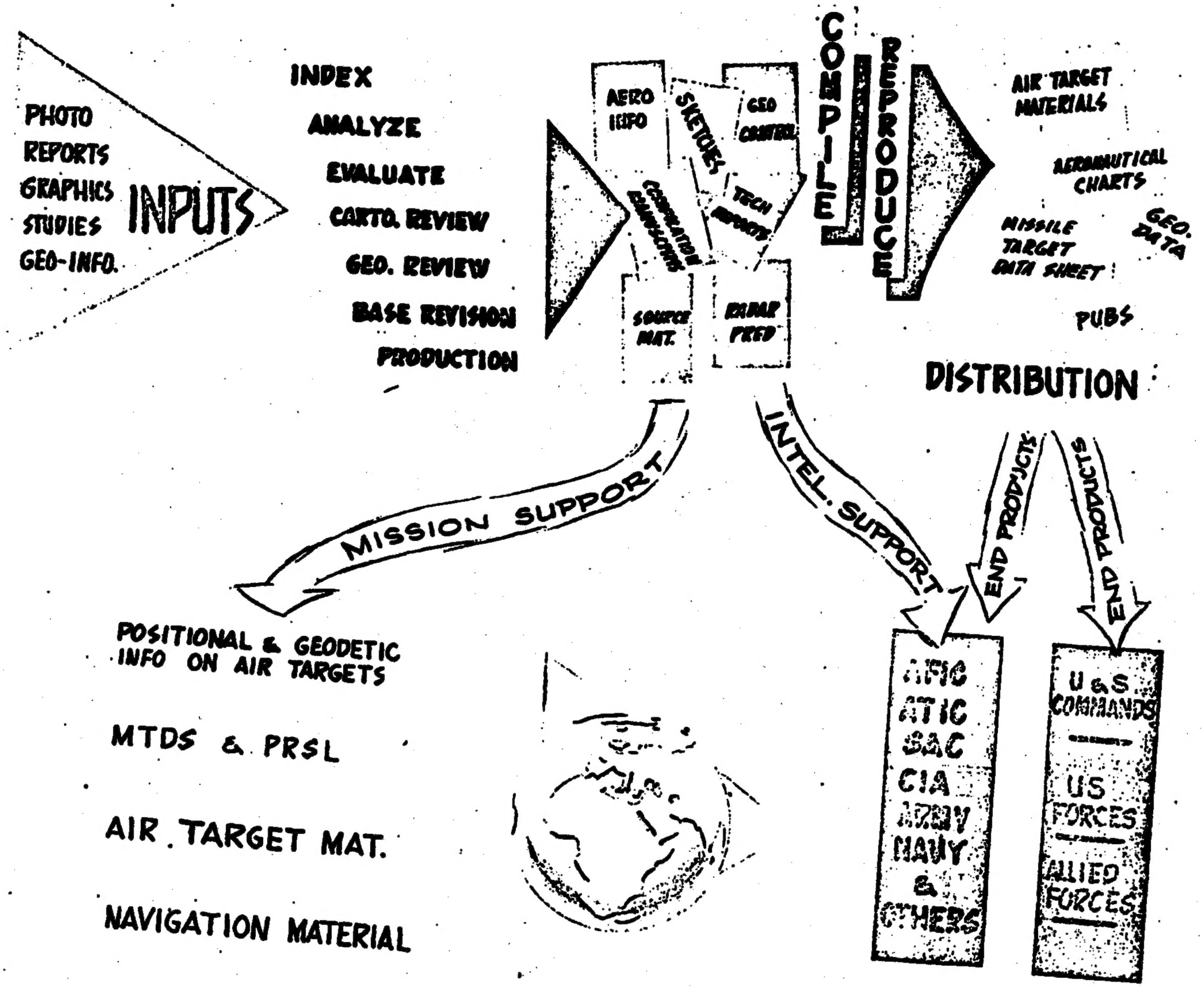
Tab C

ATIC FLOW CHART



Tab-D

ACIC INTEL. FLOW CHART



Tab-E